METAL PARTS FURNACE

SPRAY TANK
DEMONSTRATION TEST PLAN

Appendix D

AWFCO TABLES FOR THE MPF

Revision 2

April 5, 2004

TABLE D-1. MPF AUTOMATIC WASTE FEED CUT-OFFS

PROCESS DESCRIPTION	ANALOG INSTRUMENT TAG ID	WASTE FEED CUT-OFF ALARM TAG ID	WASTE FEED CUT-OFF ACTIVIATION CONTROL LOGIC DESCRIPTION	AGENT VX WASTE FEED CUT-OFF[b] SETPOINT
Primary Chamber Temperature (Zone 1)	**14-TIT-152**[c,d]	14-TALL-152	Less Than	1,200°F
	14-TIT-391[c]	14-TAHH-152	Greater Than	1,800°F
Primary Chamber Temperature (Zone 2)	**14-TIT-141**[c,d]	14-TALL-141	Less Than	1,200°F
	14-TIT-392[c]	14-TAHH-141	Greater Than	1,800°F
Primary Chamber Temperature (Zone 3)	**14-TIT-153**[c,d]	14-TALL-153	Less Than	1,200°F
	14-TIT-393[c]	14-TAHH-153	Greater Than	1,800°F
Primary Chamber Exhaust Gas Temperature	14-TIT-010[c]	Not Applicable	Not Applicable	Not Applicable
Primary Chamber Pressure	14-PIT-070[c]	14-PSHH-034	Greater Than	-0.1 in. w.c., 5 second delay
Afterburner Exhaust Gas Temperature	**14-TIT-065**[c,d]	14-TALL-065	Less Than	1,800°F
	14-TIT-069[c]	14-TAHH-065	Greater Than	2,175°F
Afterburner Exhaust Gas Velocity (measured as ΔPressure)	14-PDIT-786[c]	14-PDAHH-786	Greater Than or Equal To	1.2 in. w.c.
Quench Tower Exhaust Gas Temperature	24-TIT-509[c]	24-TSHH-223	Greater Than	225°F
Venturi Scrubber Differential Pressure	24-PDIT-222[c]	24-PDAHH-222	Less Than or Equal To	20 in. w.c.
Quench Brine to Venturi Scrubber	24-FIT-218[c]	24-FAL-218	Less Than or Equal To	50 gpm
Quench Brine Pressure	24-PIT-233[c]	24-PALL-233	Less Than or Equal To	70 psig
Scrubber Tower Spray Clean Liquor Flow	24-FIT-248[c]	24-FALL-248	Less Than or Equal To	400 gpm
Clean Liquor Delivery Pressure	24-PIT-258[c]	24-PALL-258	Less Than or Equal To	25 psig
Quench Brine Density	24-DIT-216[c]	24-DAHH-216	Greater Than or Equal To	1.28 SGU
Quench Brine pH	24-AIT-224A[c,e] 24-AIT-224B[c,e]	24-AALL-224	Less Than	7.0 pH
Exhaust Gas CO Concentration (1 of 2 redundant pair)	14-AIT-384[c,f]	14-AAH-384	Greater Than	100 ppm, 60 minute rolling ave. corrected to 7% O_2 dry volume.
Exhaust Gas CO Concentration (2 of 2 redundant pair)	24-AIT-669[c,f]	24-AAH-669	Greater Than	100 ppm, 60 minute rolling ave. corrected to 7% O_2 dry volume.

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Exhaust Gas O_2 Concentration (1 of 2 redundant pair)	14-AIT-082[c]	14-AAL-082	Less Than or Equal To	3% O_2
		14-AAH-082	Greater Than or Equal To	15% O_2
Exhaust Gas O_2 Concentration (2 of 2 redundant pair)	24-AIT-670[c]	24-AAL-670	Less Than or Equal To	3% O_2
		24-AAH-670	Greater Than or Equal To	15% O_2
MPF PAS Blower Agent Concentration	PAS 703V[g]	PAS 703	Agent VX Detected	0.5 ASC[i]
	PAS 703VB[g]		Agent VX Detected	0.5 ASC[i]
	PAS 703CG[g]		Agent GB Detected	0.2 ASC[i]
	PAS 703DG[g]		Agent GB Detected	0.2 ASC[i]
Common Stack Exhaust Gas Agent Concentration	PAS 701A, B, and C[h]	PAS 701	Agent GB Detected	0.2 ASC[i]
	PAS 706A, B, and C[h]	PAS 706	Agent VX Detected	0.2 ASC[i]
All BRA-TANKS Filled		23-BRA-TNKS	All four tanks filled to LSHH	18'3"

Footnotes:

[a] Calibration information (i.e., instrument ranges, accuracy, and methods and frequencies of calibration) is shown in Attachment 6 of TOCDF RCRA Permit.

[b] Recorded upon activation or change of state of switch.

[c] Continuously monitored with values being recorded electronically at approximately 30 second intervals.

[d] Control loop number corresponds to bolded Tag ID. Controller algorithms manipulate the output of both transmitters to determine the process variable as follows:

1. The controller averages the output of both transmitters if the transmitter outputs differ by less than 32°F.

2. The controller uses the transmitter with the highest output if the transmitter outputs differ by greater than 32°F and the associated waste feed interlock is activated when the temperature becomes greater than the set point value.

3. The controller uses the transmitter with the lowest output if the transmitter outputs differ by greater than 32°F and the associated waste feed interlock is activated when the temperature becomes less than the set point value.

4. The controller uses the transmitter with the lowest output if the transmitter outputs differ by greater than 32°F and the high transmitter's output is at full scale (i.e., 20 milliamps, or maximum instrument range).

[e] Only one analyzer is active at any one time. The active analyzer provides the process variable to the controller. Each analyzer is active an equal amount of time unless the inactive probe is taken off-line for calibration or repair.

[f] One hour rolling average is composed of the 60 most recent one minute averages. Each one minute average is composed of the 4 most recent instantaneous CO process variables occurring at 15 second intervals.

[g] PAS 703 is the TAG ID for the sampling location. Only one ACAMS for each agent is on-line during normal operations. A second ACAMS for each agent is used as a backup to provide monitoring during maintenance and malfunctions. During Agent Trial Burn performance runs only, two ACAMS for the agent being tested will be on-line at all times during agent feed.

[h] PAS 701 (GB) and PAS 706 (VX) are the TAG IDs for the sampling location. Two ACAMS are on-line at all times during agent feed in a staggered sampling mode to ensure that exhaust gases resulting from agent feed are sampled. An Automatic WFCO occurs if the two on-line ACAMS are not staggered.

[i] The alarm setting (in mg/m3) for each agent is: GB = 0.00006, VX = 0.00006 (for 0.2 ASC) or 0.00015 (for 0.5 ASC), and H/HD/HT = 0.006.